AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for manufacturing a ~~GaN-type compound semiconductor light emitting device, comprising introducing ammonia in the gaseous state into a reaction chamber housing therein a sapphire substrate, and forming layer comprising an AlN compound started from the ammonia and organic aluminum compound gas on the substrate, wherein said ammonia is taken out in the gaseous state from a charging container, in a room temperature condition, a portion of ammonia in the charging container being in a liquid phase and another portion of ammonia in the charging container being in the gas phase, and a water concentration of said liquid phase ammonia in the charging container being controlled in the range between 0.01 and 0.5 vol ppm as determined by Fourier transform infrared spectroscopy (FT IR)~~ GaN-based compound semiconductor, characterized in that a layer comprising an n-type GaN-based compound is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

2. (new): The method according to claim 1, characterized in that the layer comprising the n-type GaN-based compound has an oxygen concentration suppressed to a low level.

3. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a layer comprising an p-type GaN-based compound is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

4. (new): The method according to claim 3, characterized in that the layer comprising the p-type GaN-based compound has an oxygen concentration suppressed to a low level.

5. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that an active layer is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

6. (new): The method according to claim 5, characterized in that the active layer comprises the GaN-based compound semiconductor manufactured and has an oxygen concentration suppressed to a low level.

7. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a layer comprising a GaN-based compound is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged in a gaseous state into a reaction chamber housing therein the substrate so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm as determined by Fourier-transform infrared spectroscopy (FT-IR).

8. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that an active layer containing In is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

9. (new): The method according to claim 8, characterized in that the active layer containing In is made of an In-containing organic metal material that is trimethyl indium.

10. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a p-type layer containing Mg is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

11. (new): The method according to claim 10, characterized in that the p-type layer containing Mg is made of a Mg-containing organic metal material that is bis(cyclopentadienyl)Mg.

12. (new): The method according to claim 10 or claim 11, characterized in that the p-type layer containing Mg has a carrier concentration of 3×10^{17} cm^{-3} or more.

13. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a Si-doped n-type layer is formed on a substrate using ammonia as a raw material, characterized in that the ammonia is charged into a charging container so that at least a

portion of the ammonia is in a liquid phase and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

14. (new): The method according to claim 13, characterized in that the Si-doped n-type layer is made of a Si containing gas that is disilane.

15. (new): The method according to claim 13 or claim 14, characterized in that the Si-doped n-type layer has a carrier concentration of 3×10^{17} cm^{-3} or more.

16. (new): An ammonia product for the manufacture of a GaN-based compound semiconductor, characterized by comprising a charging container and ammonia charged into the charging container so that at least a portion of the ammonia is in a liquid phase and characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm as determined by Fourier-transform infrared spectroscopy (FT-IR).

17. (new): An ammonia product for the manufacture of a GaN-based compound semiconductor, characterized by comprising a charging container and ammonia charged into the charging container so that at least a portion of the ammonia is in a liquid phase and characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm and in that the charging container is made of manganese steel or aluminum alloy.

18. (new): An ammonia product for the manufacture of a GaN-based compound semiconductor, characterized by comprising a charging container and ammonia charged into the charging container so that at least a portion of the ammonia is in a liquid phase and characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm and in that the charging container has an inner surface subjected to plating treatment and polishing treatment.

19. (new): An ammonia product for the manufacture of a GaN-based compound semiconductor, characterized by comprising a charging container and ammonia charged into the charging container so that at least a portion of the ammonia is in a liquid phase and characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm and in that the charging container has a cylindrical shape.

20. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a layer comprising a GaN-based compound is formed on a substrate using the ammonia according to any one of claims 17 to 19 as a raw material, characterized in that the ammonia is charged in a gaseous state into a reaction chamber housing therein the substrate.

21. (new): A method for manufacturing ammonia for the manufacture of a GaN-based compound semiconductor, characterized in that crude ammonia adsorbs water by contact with an adsorbent to form liquid phase ammonia and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

22. (new): The method according to claim 21, characterized in that the adsorbent is synthesized zeolite or zirconium oxide.

23. (new): The method according to claim 21 or claim 22, characterized in that a container into which refined ammonia is to be charged is subjected to at least one treatment of washing with refined ammonia and vacuum drawing.

24. (new): A method for manufacturing ammonia for the manufacture of a GaN-based compound semiconductor, characterized in that crude ammonia is subjected to precise distillation

to form liquid phase ammonia and in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

25. (new): The method according to claim 24, characterized in that a container into which refined ammonia is to be charged is subjected to at least one treatment of washing with refined ammonia and vacuum drawing.

26. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a buffer layer is formed on a substrate at a temperature lower than a temperature at which the GaN-based compound semiconductor is formed on the buffer layer, using as a raw material ammonia charged into a charging container so that at least a portion of the ammonia is in a liquid phase, characterized in that the liquid phase ammonia has a water concentration of 0.01 to 0.5 vol ppm.

27. (new): The method according to claim 27, characterized in that the substrate is formed of sapphire.

28. (new): The method according to claim 26 or claim 27, characterized in that the buffer layer is formed of AlN.

29. (new): A method for manufacturing a GaN-based compound semiconductor, characterized in that a buffer layer, an n-type clad layer, an active layer and a p-type clad layer are formed on a substrate using as a raw material ammonia charged into a charging container so that at least a portion of the ammonia is in a liquid state and another portion thereof is in a gas phase, taken out in a gaseous state directly from the charging container, introduced into a reaction chamber housing therein the substrate and characterized in that the liquid phase

ammonia has a water concentration 0.01 vol ppm or more and 0.5 vol ppm or less as determined by Fourier-transform infrared spectroscopy (FT-IR).

30. (new): The method according to claim 29, characterized in that the water concentration of the liquid phase ammonia is controlled to 0.4 vol ppm or less.

31. (new): The method according to claim 30, characterized in that the water concentration of the liquid phase ammonia is controlled to 0.2 vol ppm or less.

32. (new): The method according to any one of claims 29 to 31, characterized in that the liquid phase ammonia has a residual impurity concentration, other than the water concentration, of 1 vol ppm or less.